

OKLAHOMA CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION  
P.O. BOX 52000  
OKLAHOMA CITY, OK 73152-2000  
(Rule 165:10-3-1)

API NUMBER: 045 23419

Approval Date: 12/18/2013

Expiration Date: 06/18/2014

Horizontal Hole Oil & Gas

PERMIT TO DRILL

WELL LOCATION: Sec: 16 Twp: 16N Rge: 23W

County: ELLIS

SPOT LOCATION:

FEET FROM QUARTER: FROM NORTH FROM EAST

SECTION LINES: 200 2125

Lease Name: SHAHAN 9-16-23

Well No: 4H

Well will be 200 feet from nearest unit or lease boundary.

Operator  
Name: APACHE CORPORATION

Telephone: 9184914900

OTC/OCC Number: 6778 0

APACHE CORPORATION  
6120 S YALE AVE STE 1500  
TULSA, OK 74136-4224

OKLAHOMA DEPARTMENT OF WILDLIFE  
CONSERVATION  
P.O. BOX 53465  
OKLAHOMA CITY OK 73105

Formation(s) (Permit Valid for Listed Formations Only):

	Name	Depth	Name	Depth
1	TONKAWA	8333	6	
2			7	
3			8	
4			9	
5			10	

Spacing Orders: 583751

Location Exception Orders:

Increased Density Orders:

Pending CD Numbers: 201308407  
201308167

Special Orders:

Total Depth: 13600

Ground Elevation: 2205

**Surface Casing: 650**

Depth to base of Treatable Water-Bearing FM: 440

Under Federal Jurisdiction: No

Fresh Water Supply Well Drilled: No

Surface Water used to Drill: No

**PIT 1 INFORMATION**

Type of Pit System: ON SITE

Type of Mud System: WATER BASED

Chlorides Max: 8000 Average: 5000

Is depth to top of ground water greater than 10ft below base of pit? Y

Within 1 mile of municipal water well? N

Wellhead Protection Area? N

Pit is located in a Hydrologically Sensitive Area.

**Category of Pit: 1B**

**Liner required for Category: 1B**

Pit Location is BED AQUIFER

Pit Location Formation: OGALLALA

Approved Method for disposal of Drilling Fluids:

A. Evaporation/dewater and backfilling of reserve pit.

D. One time land application -- (REQUIRES PERMIT)

PERMIT NO: 13-26026

H. SEE MEMO

This permit does not address the right of entry or settlement of surface damages.

The duration of this permit is SIX MONTHS, except as otherwise provided by Rule 165: 10-3-1.

Rule 165: 10-3-4 (c) (7) (e) - The Operator shall give 24 Hours notice by telephone to the appropriate District Office of the Conservation Division as to when Surface Casing will be run.

PIT 2 INFORMATION

Type of Pit System: ON SITE

Type of Mud System: OIL BASED

Chlorides Max: 300000 Average: 200000

Is depth to top of ground water greater than 10ft below base of pit? Y

Within 1 mile of municipal water well? N

Wellhead Protection Area? N

Pit is located in a Hydrologically Sensitive Area.

Category of Pit: 3

Liner required for Category: 3

Pit Location is BED AQUIFER

Pit Location Formation: OGALLALA

HORIZONTAL HOLE 1

Sec 09 Twp 16N Rge 23W County ELLIS

Spot Location of End Point: N2 N2 NW NE

Feet From: NORTH 1/4 Section Line: 200

Feet From: EAST 1/4 Section Line: 1980

Depth of Deviation: 7873

Radius of Turn: 573

Direction: 2

Total Length: 5274

Measured Total Depth: 13600

True Vertical Depth: 8396

End Point Location from Lease,  
Unit, or Property Line: 200

Notes:

Category

Description

MEMO

12/17/2013 - G71 - PITS 1 & 2 - CONCRETE LINED PIT PER OPERATOR REQUEST, PIT 2 - OBM  
RETURNED TO VENDOR, CUTTINGS PERMITTED PER DISTRICT

PENDING CD - 201308167

12/18/2013 - G30 - (E.O.) 9-16N-23W  
X583751 TNKW  
SHL NCT 200 FSL, NCT 2125 FEL 16-16N-23W  
1ST PERF NCT 300 FSL, NCT 1320 FEL/FWL 9-16N-23W  
LAST PERF NCT 300 FNL, NCT 1320 FEL/FWL 9-16N-23W  
NO OP. NAMED  
REC 12/13/13 (M.PORTER)

PENDING CD - 201308407

12/18/2013 - G30 - 9-16N-23W  
X583751 TNKW  
2 WELLS  
NO OP. NAMED  
HEARING 1/7/14

SPACING - 583751

12/18/2013 - G30 - (640 HOR) 9-16N-23W  
EST TNKW, DGLTK  
POE TO BHL NCT 660' FB  
(COEXIST WITH PRODUCING NON-HORIZONTAL SPACING UNITS; SUPERCEDE NON-  
DEVELOPED NON-HORIZONTAL SPACING UNITS)

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Office of the Conservation Division as to when Surface Casing will be run.

045 23419 SHAHAN 9-16-23 4H